



## APPRAISAL BULLETIN

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*Real Estate Economists, Appraisers and Counselors*

### SERVICE STATION PROFIT VERSUS VALUE

**I**N 1954, we ran a series of Appraisal Bulletins on service stations.\* The series included many pointers on items to be considered in appraising this most difficult type of property. It also gave construction costs, an appraisal problem, and a general discussion of the summation approach, all as applicable to service stations. Since that time, our firm has had extensive experience on many hundreds of appraisals of service stations. Some of our ideas based upon this experience are presented as potential guides to service station appraisal problems. The latter half of the bulletin brings construction costs in the St. Louis area up to date and gives an example of their application.

First and foremost, know and state carefully the purpose of the appraisal. Different values will result from appraisals of the same station for purposes of: 1) the sale of a going business; 2) fair market value of the real estate; 3) insurable value; and 4) sound mortgage value. Semantics here enters the picture, and the word "value" must be modified or defined. In the instance of item #1, the key to service station value is PROFIT, or the gallons of gasoline and oil products that can be sold plus the tires, batteries, accessories, etc., income, translated into dollars of profit. This profit must pay the operator and his employees, amortize the building and equipment, and provide adequate return on the capital investment in the land, improvements, and other investments. The elements in this value are: 1) the land; 2) improvements; 3) product; 4) management; 5) hours of operation. Of these elements, management is the most widely fluctuating factor.

It has been variously estimated that the entrepreneurial ability of the operator is 70 percent to 80 percent of the value of a service station as a going business. Hours of operation also affect volume, profit, and, consequently, value. Thus, it can be seen that a service station having an investment of \$50,000 in land, building, equipment and stock can have either a profit or loss depending upon the operator. As most service stations are not owned by the operator, it is possible to separate the value of the enterprise from the value of the real property. This is done by using the income approach to the property, as explained later, applying the lease terms to establish the real property value. The danger of this method lies in assuming that the operator or tenant at the time of the appraisal will continue engaging in the business. A change will most certainly result in a change in income to the property, as a different tenant

\*Vol. XXIII, No. 25, p. 229 - "Problems in Appraising Service Stations."

No. 35, p. 305 - "Effect of Partial Condemnation and of a Temporary Easement on the Value of a Service Station."

No. 51, p. 459 - "Service Station Construction Costs."

No. 58, p. 519 - "The Summation Approach to the Valuation of a Service Station."

will either increase or lose patronage. The enterprise portion of the going business, therefore, has a definite effect on the real property value if the income approach is used. The remainder of the bulletin is concerned with the fair market value of the real estate.

To separate the real property value from the other elements, however, is not as easy, as it is in the case of other types of buildings or uses of land. In determining the answer to the question, "What would the property bring on the market?" we still have these other elements of value to consider. Theoretically, the answer to the question should be the value of the land, plus the depreciated improvements, plus or minus the value of a favorable or unfavorable lease. Of these items, the only one which can be determined positively is the physical depreciated value of the improvements, and even in this case, the rate of depreciation might be challenged as the observed physical condition will undoubtedly be different from both the tax and insurance depreciation schedules.

Being exact, therefore, is assuming the status of an oracle. To answer our question of sales price, we cannot use sales of comparable properties unless we know every element of value included in the sale and compare only the applicable portions.

#### LAND VALUE

The first of the three elements of the real property value is land. As explained in the earlier bulletins, an oil company seeking representation in an area, or seeking advertising, will pay a premium price for a site. In like manner, a monopoly, by virtue of zoning, will create a situation resulting in a premium land value. In some cases, the income produced by the resulting enterprise could never justify the site investment. Situations like that call for land value to be determined by its value for other commercial uses, with the difference charged by the oil company to a real estate or advertising loss. To the appraiser, an excessive price paid for a site can be justified only if another buyer, say another oil company, would be equally willing to pay a similar amount. If this were the case, of course, there would be no premium attached to the land value. In the average instance, however, normal commercial value including corner influence can be determined by the comparison method of front foot or square foot prices.

#### BUILDING COSTS AND VALUE

The second element of real property value is reproduction cost less depreciation. While the two-bay type station is still the industry standard for a service station, many of the newer type multipump stations have been constructed recently. If they offer lubricating, oil change, or tire services, these are done outside. This results in a reduced building size and cost but increased yard and paving costs. The building usually has two lavatories, storage, and office space. The front is usually all glass and display space. Sometimes, this type station is highly decorative, resulting in unusually high cost per square foot. Basically, the smaller the structure, the higher the unit cost per square foot.

Construction costs start on page 526. For the purpose at hand, therefore, we will assume that you can obtain the reproduction costs of the building, including the site improvements. Caution must be observed to separate personal property from real property, as frequently each is owned by separate interests. In most instances, a lease will provide information as to property ownership. We have already mentioned the fact that depreciation schedules vary according to the purpose for which they are to be used. It is our belief that actual physical depreciation should be based on the age and the remaining economic life of the structure involved. Func-

tional obsolescence should be applied where needed to justify a faster depreciation than normal. Economic obsolescence should be used to indicate changes induced by so-called outside factors. Here it should be remembered that land values have already been treated under other economic factors such as traffic, and therefore should not be duplicated. It must also be remembered that economic changes can cause appreciation of value. This can be covered in the processing of the income stream and the favorable or unfavorable lease.

#### INCOME APPROACH TO VALUE

In using the income approach to value, great care must be exercised in applying the income to the proper and ultimate recipient of same. Thus, an operating statement will show the profit or loss to the operator. If his lease is the normal minimum plus gallonage, his statement will provide the amount paid in the form of base rent plus percentage to his landlord. If this landlord is an oil company, leasing from the fee simple owner of the property, the terms of this second lease only, determine the income stream imputable to the property. In other words, money, or the lack of it, reaching the owner constitutes the income which must be processed to determine real property value by the income approach. Such a lease may be favorable or unfavorable, affecting the treatment. It may be for a flat rate or on a gallonage basis. If based on the latter, the income will depend upon operator's initiative, management, hours of operation, local traffic, brand acceptance, price and discounts, and all of the other factors influencing the purchase of gasoline and related products. Consequently, the appraiser must consider the likelihood of the continuation or change of each of these factors. Then the normal process of capitalizing this resulting income stream is followed.

#### REAL PROPERTY VALUE

After processing the lease income stream as indicated above, we have determined real property value by two methods. The disturbing factors that create consternation arise when a station sells for more or less money than the above-indicated value. By investigating carefully, the appraiser must separate the other elements of value from the sales price. These elements may not be present; instead they may be only anticipated. In any event, a purchaser or seller is either gambling, or knows, that elements of value other than the real property and the lease, are present or are missing in sufficient quantity to warrant paying more or less than the indicated value of same.

#### OTHER VALUES AND INTERESTS

So far we have been attempting to set out the manner in which the real property value can be separated from the other values in order to appraise the interest of the fee simple title holder of the property. It matters not whether this owner is an oil company or an investor, or the actual operator. The same process must apply to any one of the three in order to acquire the value of the real estate. In many instances an oil company will purchase a site, construct a service station, and sell the package to an investor, leasing back the station at a fixed rental. The income stream from this lease is the one heretofore referred to as a part of the real property value. The interest of the oil company, which in turn must find an operator to sell its products, presents an entirely different problem. Here, location is about the only factor in real property value that interests the company. Its lease with the owner is a business expense, and the sales of its products are a normal business income. The ability of the oil company to charge off excessive rent as advertising or real estate loss depends upon its need to do so for tax purposes. Thus the company can have both a positive and negative value assigned to a given station.

On the other hand, profit is the main interest of the ultimate operator of any service station. To him the value is an opportunity to make a living. To appraise his interest is to appraise the going business. If he believes that there is sufficient potential in a site to invest his time and money, he will agree to terms with the company and open the station for business.

Up to this point there has been no mention of the time-honored measurement of value of service stations, namely, gallonage. Actually this is a rule of thumb valuation of the enterprise, and as such has only a small place in valuation of real property. It is, however, an indication of management, and consequently an important factor in the value to the oil company. Only after filtering through these two does it have a possible effect on the income stream to the fee simple owner, and then only if the owner's income is based on gallonage or percentage.

#### PROFIT VERSUS VALUE

To go back to the original thesis, therefore, profit is not always a determinant of the value of a service station property. Neither does real property value necessarily reflect the profit potential. In every instance, unless the station is directly operated by an oil company, the operator must make a profit or the station will be vacant. An operator cannot subsidize the oil company or property owner. Therefore, at the operator's level, a profit is essential. An oil company can afford a real estate or advertising loss, which creates three values: one to itself, one to the operator, and one to the property owner. The value to the oil company is also split. It is concerned with the representation in a given area, advertising value and profit from the sale of its products. While profit is present for all three participants of normal service station operation, the value is not measured even by the summation of these profits; each participant could sell his interest, but only one, the property owner, could sell the real estate and improvements without affecting the profit and value of all three. Hence, the real estate value, which can be separated by the appraiser, concerns only the property owner, but must be measured in terms of profit and value to both of the participants in service station operation so we again say PROFIT VERSUS VALUE, and find a chicken and egg situation which makes service stations so unpredictable to appraise.

#### SERVICE STATION CONSTRUCTION COSTS

Since we published our bulletin on service station construction costs, major changes in construction of this type building have occurred in design and materials. From the design standpoint, the multipump station has increased in popularity, first among the cut-rate suppliers and later with the independents and major companies. This type of station does not require expensive lubricating and washing bays, having only office, storage and restroom space enclosed. The typical station is still the two-bay type, however. It has changed mainly in the materials used in construction. More of them have a steel frame with window walls and metal panels. There is more use of Roman brick, stone, plywood, and plastic. The average station is still a porcelain enameled panel over masonry with store-front-type windows in the office. Following, we are listing the costs necessary to compute all of the appurtenances to a service station, and some more general figures on the actual building costs.

We have classified service stations according to the structural type and have computed costs for each of these types. We have separated them further by the grade of construction. For instance, a small building serving a multipump station, say 400 square feet, would vary from the lowest grade of the lowest classification at \$10.30 per square foot to \$29.60 for the best grade at the highest classification. Each

classification and grade has basic specifications from which we can add or deduct at a given square foot price.

**BUILDING COSTS:** For the purposes of this bulletin we will give the basic specifications of an average service station having porcelain panels over masonry, and the square foot costs of various sizes, plus the additions or deductions that are applicable. They follow:

<u>Basic Specifications</u>	
Foundation	Concrete, shallow footings
Exterior Walls	Concrete block porcelain 3 sides
Roof	Wood framing, built-up roofing
Floors	Concrete
Heating	Oil space heaters
Plumbing	2 restrooms, total 5 fixtures
Wiring	Conduit, average fixtures
<u>Additions or Deductions</u>	
Plumbing	\$125 per fixture plus or minus
Tile	None included, add at rate of \$1.80/s. f., or \$160/restroom
Flooring	Add \$.30 per s. f. for asphalt tile
Interior Finish	Drywall or plaster on masonry, add \$.50 per s. f. for area covered. Plywood or metal panels or plaster on lath, add \$1.50 per s. f.
Heating	Forced warm air, \$300 minimum or \$.50 per s. f.

Following is a table of square foot costs of the average service station building, having the above specifications:

Ground Area	Sq. Ft.	Ground Area	Sq. Ft.	Ground Area	Sq. Ft.
Sq. Ft.	Cost	Sq. Ft.	Cost	Sq. Ft.	Cost
400	\$17.10	1,300	\$12.50	2,200	\$11.00
500	15.70	1,400	12.20	2,300	10.80
600	14.70	1,500	11.90	2,400	10.60
700	13.90	1,600	11.80	2,500	10.40
800	13.40	1,700	11.70	2,600	10.30
900	13.00	1,800	11.60	2,700	10.20
1,000	12.90	1,900	11.50	2,800	10.10
1,100	12.80	2,000	11.40	2,900	10.00
1,200	12.70	2,100	11.20	3,000	9.90

To these building prices must be added the necessary additions and deductions from above and the applicable site improvements, yard work, and equipment from the following figures. An example on page 529 shows how to use these costs in appraising a service station. Costs continue on page 530.

**PAVING COSTS:** Listed below are the costs of paving that would apply during non-freezing weather only. The costs of laying concrete or black top would be considerably higher during periods of extremely cold weather.

6" reinforced concrete drive	65¢ per s. f.
5" reinforced concrete drive	55¢ per s. f.
Asphalt paving	32¢ per s. f.
4" concrete walks	60¢ per s. f.
6" concrete curbs	\$2.25 per linear foot
Crushed rock parking area	15¢ per s. f.

**PUMP ISLANDS:** Concrete pump islands vary somewhat in size, and the cost would vary proportionately. However, we are giving average costs of pump islands:

2-pump .....	\$140
3-pump .....	160
4-pump .....	200

**PUMPS:** The costs listed below do not include the costs of installation, freight or wiring. There is an average of \$5 setting charge for uncrating and placing the pump into position. The cost of installing the pumps, which includes bolting down, wiring and testing, will run approximately \$40 per pump. The noncomputing pumps will cost approximately \$330, the computing pumps will run approximately \$350, while the low-boy computing pumps will run \$375. Pumps with the hose reel attachments will run approximately \$400 in cost.

**YARD WORK:** This is an item that is very often omitted in computing the cost of a service station, despite the fact that yard improvements costs are large. The cost of installing the electrical work for a 3-pump station will average about \$500, for a 4-pump station \$550, for a 6-pump station \$700, and for an 8-pump station \$850.

The yard plumbing, which includes water, sewers, gasoline lines and air lines, will run about \$600 for a 3-pump station, \$675 for a 4-pump station, \$800 for a 6-pump station, and \$950 for an 8-pump station.

In the event that it is necessary to install a septic tank, an expenditure of approximately \$1,000 to \$1,500 is necessary, depending upon the soil conditions.

**TANKS:** The cost of the tanks will vary but little from area to area, but the installation cost will vary greatly depending upon the em placement of these tanks, whether underground or above ground, vertical or horizontal, and on the soil conditions. In the event that any underground stone is encountered, the costs given would not apply. The underground installation costs include a sand backfill around the tank which will minimize the action of electrolysis, and in turn lengthen the life of the tank.

In some instances the tanks are anchored into position to prevent their floating to the surface when they are relatively empty and the ground becomes moist. The cost of anchoring the tanks in place will probably average about \$50 per tank. In some cases, however, particularly when the ground is sandy or rocky, such anchoring is unnecessary. Some firms merely have their tanks filled with water during the installation in order to anchor them during that period. Listed below are the tank costs and the average cost of installing them below ground.

Size (Gallons)	Tank (7-gauge)		Total
	Cost	Installation Cost Below Ground	
550	\$ 90	\$100	\$ 190
1,000	130	130	260
2,000	210	200	410
3,000	280	260	540
4,000	350	330	680
6,000	620	430	1,050

## DEMONSTRATION OF COST APPROACH TECHNIQUE

The example below is an average 5-year-old service station placed on a corner lot 125' x 125'. Construction costs and equipment costs are listed separately. Land value is assumed at \$150 per front foot on the major street and \$60 per front foot on the minor street.

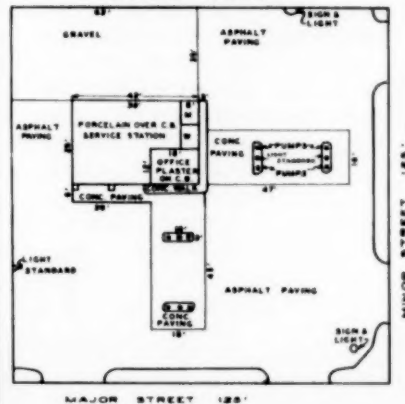
### CONSTRUCTION COSTS

Building Base	1,176 s.f. @ \$12.70	
Forced warm air heat	1,176 s.f. @ .50	
Total base plus heat	1,176 s.f. @ 13.20	\$15,523
Office finish	192 s.f. @ 1.00	192
Building Total		\$15,715
<b>Additions</b>		
Tile, 2 lavatories @ \$160	\$ 320	
Asph. tile, office, 192 s.f. @ \$.30	58	
Extra plumbing fixture @ \$125	125	
Conc. walk, 193 s.f. @ \$.60	116	
Conc. paving, 1,812 s.f. @ \$.65	1,178	
Asph. paving, 9,217 s.f. @ \$.32	2,949	
Gravel surfacing, 2,170 s.f. @ \$.15	326	
Tanks, 2-4,000; 1-550	1,550	
Islands, four 2-pump	560	
Yard electric (8 pumps)	850	
Yard plumbing (8 pumps)	950	8,982
Total Site and Building		\$24,697
Less Depreciation, 7%		1,729
Total Construction		\$22,968 call \$23,000
Land, 125' @ \$150 per f.f.	\$18,750	
Corner influence \$60 adjusted to 100'		
depth = \$48.60 x 40% corner in-		
fluence = \$19.44 x 100'	1,944	
		\$20,694 call \$20,700
Total Depreciated Building and Land		\$43,662 call \$43,700

### EQUIPMENT COSTS

Total Depreciated Building and Land	\$43,700
<b>Equipment</b>	
Pumps, 8 @ \$375	\$3,000
Installation, 8 @ \$45	360
Light and sign standards, 3 @ \$150	450
Signs, 2 @ \$100; 1 @ \$25	225
Lights, 4 island @ \$225 installed	900
Lights, 9 floods @ \$30 on standard	270
Lifts, 2 @ \$550	1,100
Compressor and air lines, 1½ h.p.	300
Grease equipment	1,000
Shelving, display and desk	400
Total Equipment	\$8,005
Less depreciation, 14%	1,121
Total Depreciated Equipment	6,884
Total Building, Land and Equipment	\$50,584
Estimate of Value	call \$50,600

### PLOT PLAN



Actual installation costs vary considerably. These costs apply under average, ideal conditions and include excavation, setting of the tank, backfilling with sand and dirt, installing a fill line with cap and a manhole with cover 1" above the ground level, and connecting the tank to the gasoline distributing lines.

In the average station, tanks are placed underground. However, they may be set above ground, either vertically or horizontally. Of these two methods, the vertical emplacement is cheaper because it does not need concrete supports. It requires only domed earth covered with a rock fill.

**LIGHTING:** The cost of electric advertising signs and yard lighting varies with the type and size of the signs. Standards for flood lights and pedestal signs will average about \$100 plus \$50 for installation. Mercury lamps and transformers will average about \$80. A 4-foot neon advertising sign will cost in the neighborhood of \$100, while a plain one will cost about \$25. There is a \$75 charge for installing the electric signs. A 6-foot pedestal sign will cost \$160, while an 8-foot sign will cost approximately \$225. Again, a \$75 installation charge should be added.

**EQUIPMENT:** Generally, the equipment furnished in a service station consists of an air compressor, a hoist, high-pressure lubricating equipment and shelving, display equipment and a desk. A 1/3 h. p. air compressor will cost approximately \$145, a 1/2 h. p. \$160, a 3/4 h. p. \$180, a 1 1/2 h. p. \$300, and a 3 h. p. \$410. Installation charges will vary from \$25 to \$75, depending upon the size of the equipment. Hoists will run from \$530 to \$565 for a full hydraulic 8,000-pound hoist. Installation will cost approximately \$125. High-pressure grease equipment will average \$800 plus a \$200 installation charge. Shelving, display equipment, and desk will average from about \$300 for a small station to \$500 and even higher for the larger ones.

**COST OF REMOVAL:** In many instances it is necessary for the appraiser to compute the cost of removing some of the improvements. The concrete islands would cost approximately \$50 each to remove, the hoist \$50, while the tanks will cost as much to remove as it does to install them. Concrete paving can be removed for approximately 20¢ per square foot, while 6" concrete curbs will cost 30¢ per linear foot.

**MISCELLANEOUS:** It might be well to call attention to the fact that all that appears to be metal may not be metal. Plywood, transite, and plastic materials are making their appearance as panels in filling station construction. These new materials, plus an extensive use of glass and masonry veneer, sometimes make it difficult to classify the construction, as several different types are mixed. Of course, an interior inspection will determine whether or not the skeleton is of steel or concrete block. If it is steel, the square foot unit price will be higher than for masonry back-up, but porcelain panels will cost the same over either material. For the average 2-bay station, such paneling costs about \$2,700 for three sides. In assigning depreciation, it must be remembered that some of the new materials require more maintenance, and deteriorate more quickly than the ones they replace. Actual life expectancy should be used in determination of depreciation of these materials.

